

Pollution Prevention (P2) for Clinics and Hospitals

In the fast moving world of clinics and hospitals, many opportunities exist to reduce waste at the source impacting chemicals, healthcare products and equipment used. Clinics and hospitals also handle bio-hazardous waste that must be managed under different regulations than general waste. Care must be taken to dispose of mercury and other hazardous materials correctly. Mercury is a Persistent, Bioaccumulative, and Toxic (PBT) chemical that should be reduced in hospital waste streams and which must be handled appropriately. Other opportunities include implementing P2 and general green practices like energy and water conservation. This resource summary is designed to provide basic tips and guidance on reducing waste and other P2 practices in clinics and hospitals.

Waste Disposal

Bio-hazardous Waste¹ - Identify opportunities to prevent general trash and recyclables that are not classified as bio-hazardous waste from ending up in bio-hazardous waste bins. This can considerably reduce the amount of regulated bio-hazardous waste produced. Bio-hazardous waste handling costs can be higher than general solid waste disposal fees. Simple steps like placing posters showing employees the respective bins to use for common wastes can serve as a reminder to avoid increasing bio-hazardous waste volumes. An example made by CalRecycle can be seen [here](#).

Universal Waste - Universal waste includes fluorescent lamps containing mercury and mercury containing equipment that is being discarded.² Create a replacement schedule for the facility's lamps and replace them with light emitting diode (LED) lights, saving money on both energy and correct disposal costs.

In the past, mercury was prevalent in hospitals and clinics. Most hospitals and clinics have gone mercury-free or have a

mercury reduction program in place, but if your facility has not, consider implementing a mercury reduction program. Mercury can be found in older hospital equipment such as thermometers, sphygmomanometers, and vacuum gauges. Create an inventory of instruments, chemicals and products used in your facility to identify mercury-containing items.^{3,4} When disposing of mercury-containing equipment make sure to follow applicable universal waste regulations. For more information on phasing out mercury-containing equipment purchases refer to [this document](#).⁴

To reduce bio-hazardous and universal waste volumes, train employees to correctly identify wastes. Create clear protocols and directions on how to handle each waste and provide training regularly.

General Sustainable Practices

Institute P2 training for all staff members, both medical and administrative. If re-use is not a viable option due to contamination, implement a recycling program and recycle single-use medical items. Properly label waste and recycling baskets. Donate and recycle electronic items as they are replaced, replace with Energy Star

certified devices⁵ and use certified electronic recyclers when recycling electronics.^{6,7} Blue wrap, which is made of polypropylene (recycling number 6) and is used for packaging items for steam sterilization, can be recycled in some areas, but a more cost effective option would be replacing them with rigid reusable sterile cases.^{8,9} Obtain reusable sharps containers, and try to find ones made from recycled plastic. Use good quality red bags (bio-hazardous waste bags) to prevent tearing and spillage of medical waste. Seek recycled content bags, which can be stronger, high density bags.⁸

Also consider:

- using microfiber mops in place of conventional wet loop mops.
- working with vendors to use reusable totes for deliveries.
- implementing a green cleaning program and using EPA Safer Choice cleaning chemicals.^{10,11}

Energy Conservation – Begin with a facility-wide energy audit. These can either be provided by your energy supplier or by a third-party vendor

that is endorsed by your energy supplier. EPA's Energy Star programs cover both buildings and labeled products which use less energy.⁵

Water Conservation – To identify water conservation opportunities, contact the local utility company to inquire about a facility-wide water audit. When updating plumbing fixtures, look for the EPA WaterSense label on replacements to ensure more water efficient fixtures.¹² Direct and encourage maintenance crews to be vigilant in looking for leaks and appliances that require preventative maintenance or replacement.

Reducing Food Waste¹³ – Conduct a food waste audit of your cafeteria if applicable. Partner with food banks to help those in need by donating leftover food. Look for alternatives to throwing out food such as donation to farms or composting on- or off-site.

Helpful Resources

The Minnesota Pollution Control Agency has a document listing ways to deal with empty containers.¹⁴

[View Document >](#)

The Healthcare Environmental Resource Center has definitions of medical, hazardous and solid waste, reduction techniques, green facilities management techniques and more helpful articles for those in the healthcare industry.¹⁵

[View Site >](#)

Health Care Without Harm provides information on a wide range of issues within clinics and hospitals including toxic materials, safer chemicals and waste reduction.¹⁶ [View Site >](#)

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References

¹[Tetra Tech. Minimizing Regulated Medical Waste.](#)

²[ADEQ. Managing Universal Waste for Businesses - March 2014.](#)

³[New Hampshire Department of Environmental Services. Pollution Prevention Resources for Healthcare Facilities.](#)

⁴[Practice Green Health. Environmentally Preferable Purchasing.](#)

⁵[EPA. Energy Star.](#)

⁶[EPA. Electronics Donation and Recycling.](#)

⁷[EPA. Certified Electronics Recyclers.](#)

⁸[California Department of Public Health. Medical Waste Management Program.](#)

⁹[CESM. Phoenix Medical Waste Disposal LCA.](#)

¹⁰[EPA. Safer Choice.](#)

¹¹[Healthier Hospitals. Safer Chemicals.](#)

¹²[EPA. WaterSense.](#)

¹³[EPA. Tools for Preventing and Diverting Wasted Food.](#)

¹⁴[Minnesota Pollution Control Agency. Containers that Held Hazardous Wastes or Products.](#)

¹⁴[Healthcare Environmental Resource Center.](#)

¹⁵[Health Care Without Harm.](#)